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(54) **METHODS AND SOFTWARE FOR HALLUCINATING FACIAL FEATURES BY PRIORITIZING RECONSTRUCTION ERRORS**

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(58) **Field of Classification Search**
None
See application file for complete search history.

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(57) **ABSTRACT**

Identifying a masked suspect is one of the toughest challenges in biometrics that exist. This is an important problem faced in many law-enforcement applications on almost a daily basis. In such situations, investigators often only have access to the periocular region of a suspect's face and, unfortunately, conventional commercial matchers are unable to process these images in such a way that the suspect can be identified. Herein, a practical method to hallucinate a full frontal face given only a periocular region of a face is presented. This approach reconstructs the entire frontal face based on an image of an individual's periocular region. By using an approach based on a modified sparsifying dictionary learning algorithm, faces can be effectively reconstructed more accurately than with conventional methods.

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